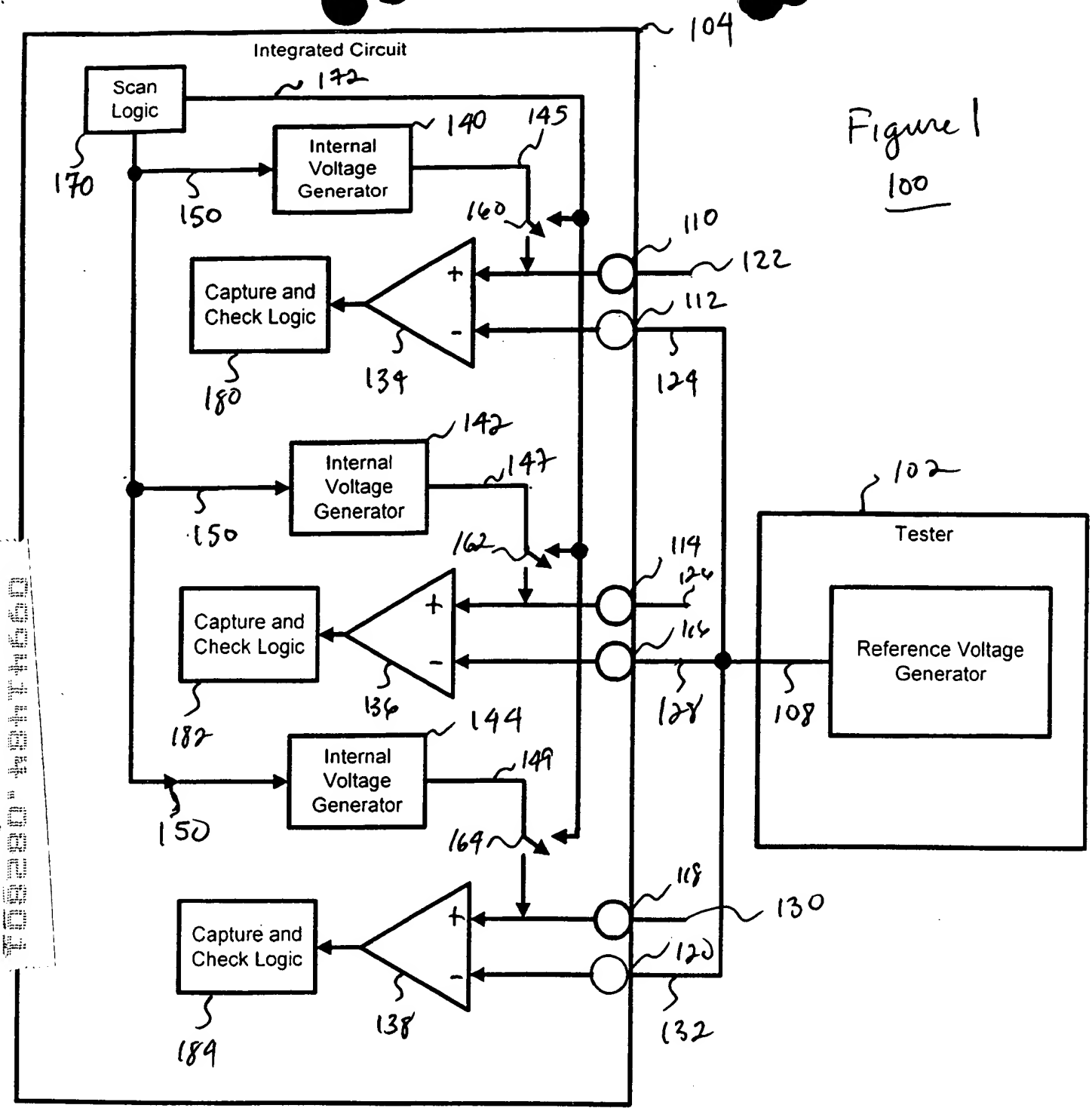
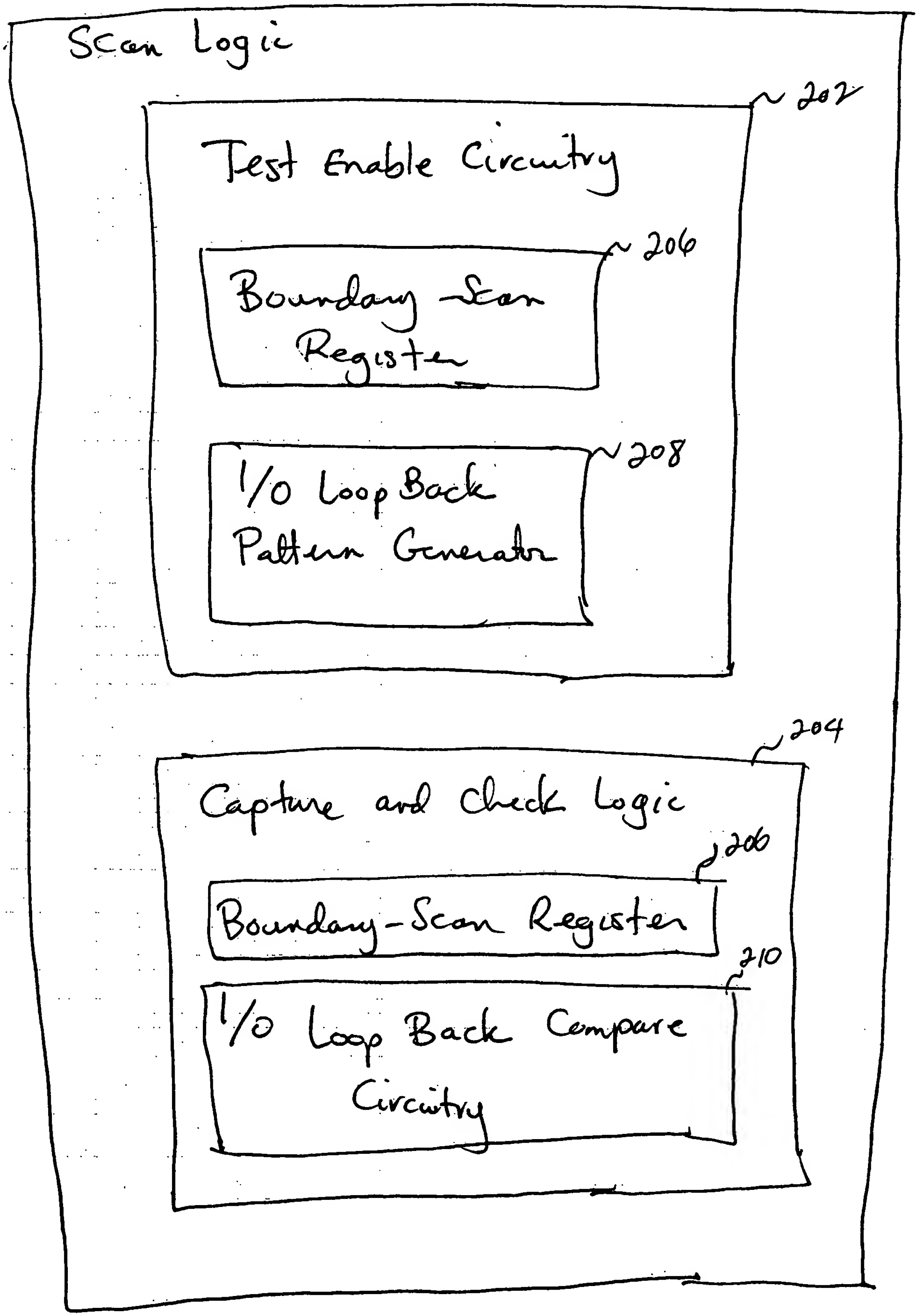

Integrated Circuit
104
Scan Logic
172
170
150
Internal Voltage Generator
140
145
160
110
122
Capture and Check Logic
180
134
112
124
142
Internal Voltage Generator
147
150
162
114
Capture and Check Logic
182
136
116
128
144
Internal Voltage Generator
149
150
164
118
130
Capture and Check Logic
189
138
120
132
102
Tester
Reference Voltage Generator
108

Figure 1

100

Figure 2 170


Scan Logic
202
Test Enable Circuitry
206
Boundary-Scan Register
208
I/O Loop Back Pattern Generator
204
Capture and Check Logic
206
Boundary-Scan Register
210
I/O Loop Back Compare Circuitry

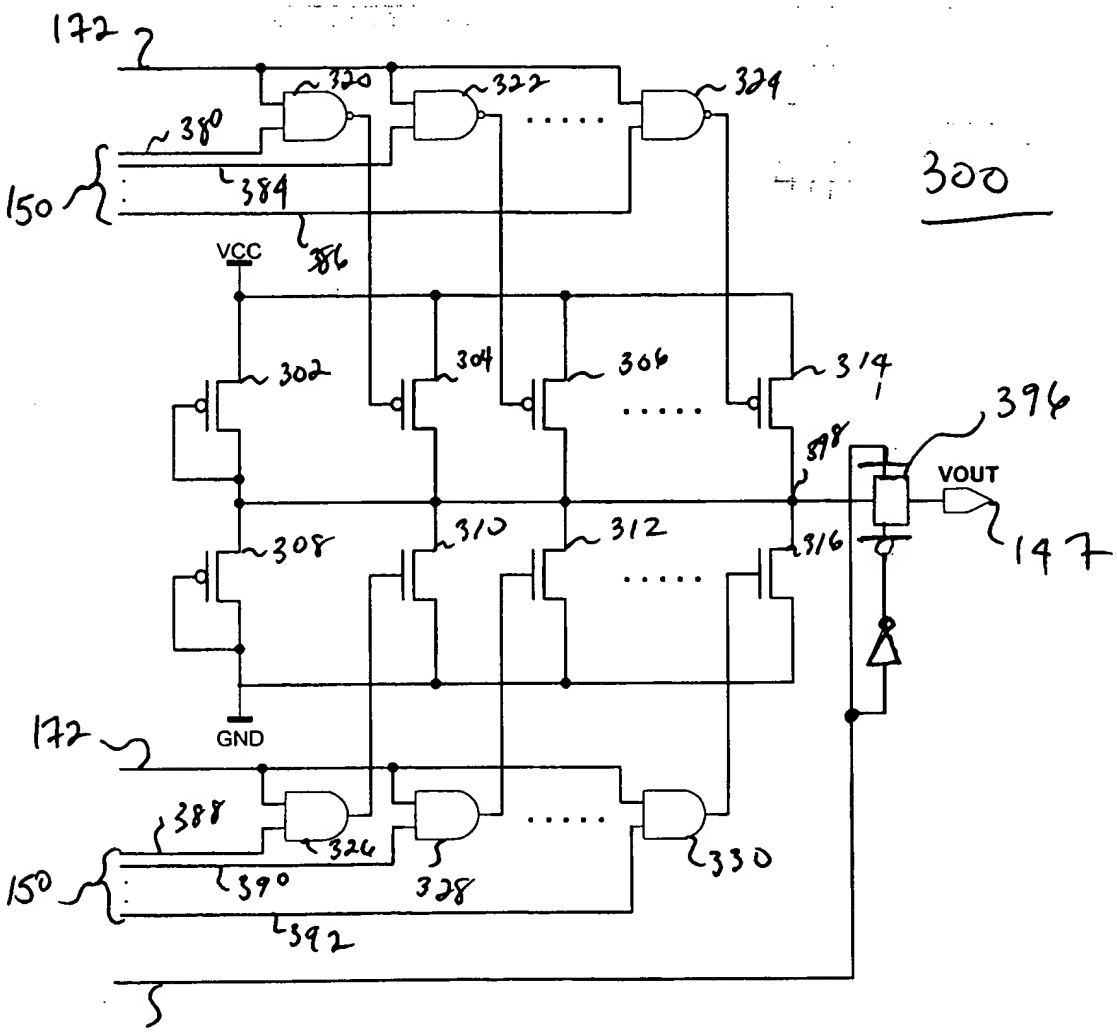
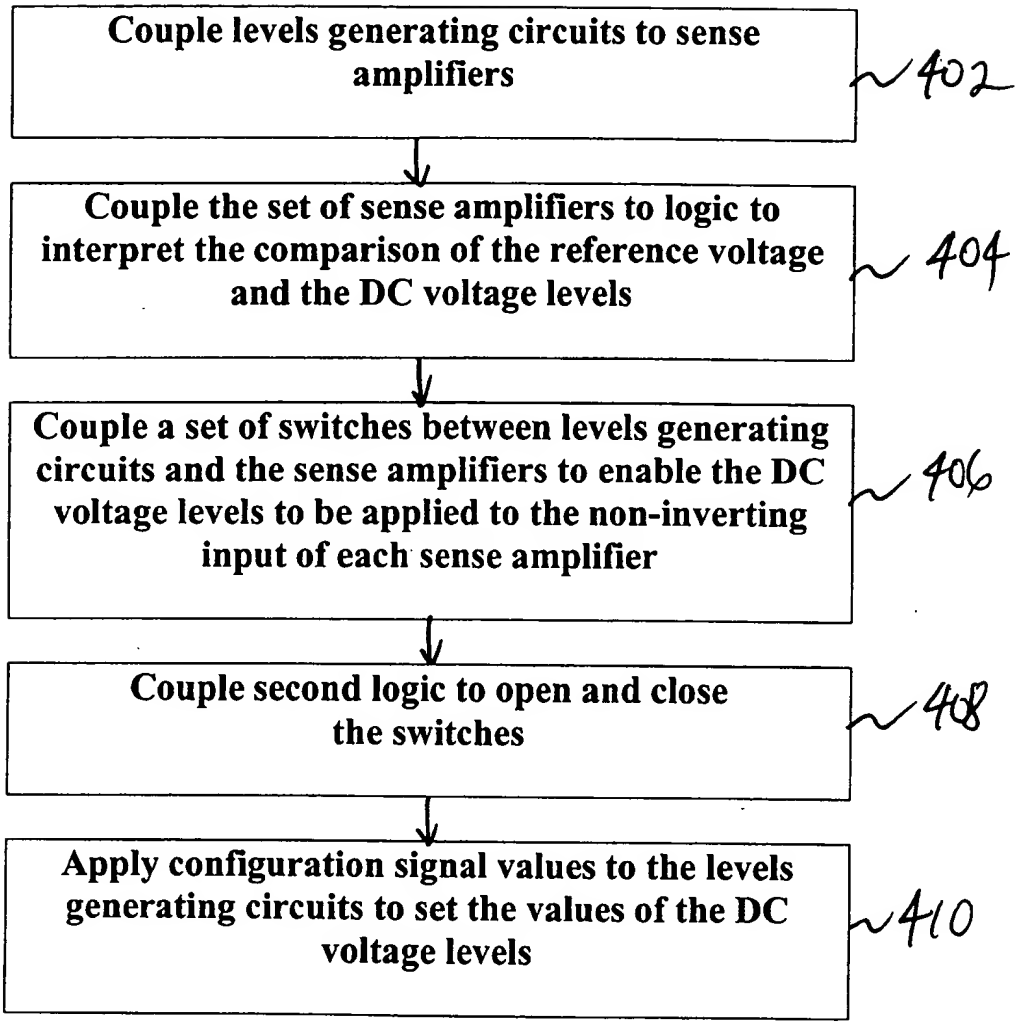

172
320
322
324
380
150
384
386
300
VCC
302
304
306
314
396
398
VOUT
308
310
312
316
147
GND
172
388
326
328
330
150
390
392
5

Figure 3

Figure 4
400


Couple levels generating circuits to sense amplifiers
402
Couple the set of sense amplifiers to logic to interpret the comparison of the reference voltage and the DC voltage levels
404
Couple a set of switches between levels generating circuits and the sense amplifiers to enable the DC voltage levels to be applied to the non-inverting input of each sense amplifier
406
Couple second logic to open and close the switches
408
Apply configuration signal values to the levels generating circuits to set the values of the DC voltage levels
410